APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/681,263	03/09/2001	Michael J. Frerking	00H1451	8542

24234 7590 11/01/2005	EXAMINER	
SIMMONS, PERRINE, ALBRIGHT & ELLWOOD, P.L.C.	KANG, INSUN	
THIRD FLOOR TOWER PLACE		
22 SOUTH LINN STREET	ART UNIT	PAPER NUMBER
IOWA CITY, IA 52240	2193	

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
	09/681,263	FRERKING ET AL.
·Office Action Summary	Examiner	Art Unit	
	Insun Kang	2193	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *15 August 2005.*

2a) ☐ This action is FINAL.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-48* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-48* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   This action is in response to the RCE amendment filed 8/15/2005.

2.   As per applicant's request, claims 1, 21, -23, 40, 47, and 48 have been

amended. Claims 1-48 are pending in the application.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

4.   Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject

matter which applicant regards as the invention.

Claim 1 recites the limitation "said display component" in lines 5 and 7.

There is insufficient antecedent basis for this limitation in the claim.

As per claims 2-20, these claims are rejected for dependency on the

above parent claim 1.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section
> 122(b), by another filed in the United States before the invention by the applicant for patent or
> (2) a patent granted on an application for patent by another filed in the United States before
> the invention by the applicant for patent, except that an international application filed under

the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6.   Claims 21-45 are rejected under 35 U.S.C. 102(e) as being anticipated by Gee at al. (US Patent 6,374,286) hereinafter referred to as Gee.

Per claim 21:

Gee discloses creating a target executable file for an embedded multiple virtual machine environment ("JEM processor," col. 8 lines 55-67)

-receiving, by the builder tool, compiled source code of a first application ("Instruction bytecodes are fetched from code memory," col. 9 lines 18-26)

-receiving, by the builder tool, compiled source code of a second application ("Instruction bytecodes are fetched from code memory," col. 9 lines 18-26)

- creating, by the builder tool, a first relocatable virtual machine to run the compiled source code of the first application (i.e. col. 22 lines 41-51)

-creating, by the builder tool, a second relocatable virtual machine to run the compiled source code of the second application (i.e. col. 24 lines 44-53; col. 22 lines 41-51)

-determining, by the builder tool, parameters (i.e. col. 27 lines 43-59)

-locating, by a locating tool of the builder tool, said first relocatable virtual machine and said second relocatable virtual machine (i.e col. 8 lines 47-58)

-generating a target executable file (i.e col. 8 lines 47-58) .

Per claim 22:

The rejection of claim 21 is incorporated, and further, Gee discloses

receiving, by the builder tool, compiled source code of a third application

creating, by the builder tool, a third relocatable virtual machine to run the

compiled source code of the third application wherein said locating step also

locates the third relocatable virtual machine(i.e. col. 24 lines 44-53; col. 22 lines

41-51).

Per claim 23:

The rejection of claim 21 is incorporated, and further, Gee discloses

-receiving, by the builder tool, a plurality of additional compiled source codes,

each additional compiled source code of said plurality of additional compiled

source codes being related to an additional application ;creating, by the builder

tool, a plurality of additional relocatable virtual machines, each additional

relocatable virtual machine of said plurality of additional relocatable virtual

machines being created to run one of the additional compiled source codes of

said plurality of additional compiled source and wherein said locating step said

also locates said plurality of additional relocatable virtual machines (i.e. col. 24

lines 44-53; col. 22 lines 41-51).

Per claim 24:

The rejection of claim 21 is incorporated, and further, Gee discloses

searching for user-defined parameters (i.e. col. 15 lines 15 lines 33-37).

Per claim 24:

The rejection of claim 21 is incorporated, and further, Gee discloses

searching for resource defined parameters (i.e. col. 15 lines 15 lines 33-37).

Per claim 26:

The rejection of claim 25 is incorporated, and further, Gee discloses

searching for target hardware configuration defined parameters (i.e. col. 15 lines

15 lines 33-37).

Per claim 27:

The rejection of claim 26 is incorporated, and further, Gee discloses

searching for runtime defined parameters (i.e. col. 15 lines 15 lines 33-37).

Per claim 28:

The rejection of claim 27 is incorporated, and further, Gee discloses

searching for default parameters(i.e. col. 15 lines 15 lines 33-37).

Per claim 29:

The rejection of claim 21 is incorporated, and further, Gee discloses

a set of first application relocatable objects and an associated set of first

application runtime relocatable objects ; and wherein said compiled source code

of a second application comprises a set of second application relocatable objects

and an associated set of second application runtime relocatable objects (i.e. col.

24 lines 44-53; col. 22 lines 41-51).

Per claim 30:

The rejection of claim 21 is incorporated, and further, Gee discloses

generation of a related list file and a related load script file (i.e. col. 18 lines 8-17).

Per claim 31:

The rejection of claim 24 is incorporated, and further, Gee discloses

searching for user-defined parameters comprises searching for an interrupt

routine entered as a method signature by a user (i.e. col. 10 lines 58-67).

Per claim 32:

The rejection of claim 24 is incorporated, and further, Gee discloses

searching for user-defined parameters comprises searching for user-entered

virtual machine build data (i.e. col. 19 lines 40-52).

Per claim 33:

The rejection of claim 21 is incorporated, and further, Gee discloses

guiding, by said builder tool, a user to enter data needed to create a new virtual

machine (i.e. col. 19 lines 40-52).

Per claim 34:

The rejection of claim 21 is incorporated, and further, Gee discloses

establishing a count of available resources file (i.e. col. 18 lines 8-17).

Per claim 35:

The rejection of claim 34 is incorporated, and further, Gee discloses

dynamically updating information on the count of available resources in real time

file (i.e. col. 18 lines 8-17).

Per claim 37:

The rejection of claim 35 is incorporated, and further, Gee discloses

removing resources by a user of the builder tool (i.e. col. 19 lines 40-52).

Per claim 38:

The rejection of claim 21 is incorporated, and further, Gee discloses

assigning an interrupt routine to a method by entry, by a user of the builder tool,

of an identifying method signature (i.e. col. 19 lines 40-52).

Per claim 39:

The rejection of claim 21 is incorporated, and further, Gee discloses

dynamically updating information on the determined parameters in real time (i.e.

col 30 lines 55-67).

Per claim 40:

Gee discloses a computer-executable code to establish a builder tool for an

embedded multiple independent virtual machine environment, said code

comprising an algorithm to determine build parameters ("JAVA embedded

microprocessor (JEM)," col. 8 lines 47-58).

Per claim 41:

The rejection of claim 40 is incorporated, and further, Gee discloses

:build parameters is structured to perform a prioritized search based on how the

parameter was defined (col. 22 lines 26-40).

Per claim 42:

The rejection of claim 40 is incorporated, and further, Gee discloses determining

available resources (i.e. col. 19 lines 40-52).

Per claim 43:

The rejection of claim 40 is incorporated, and further, Gee discloses

- permit user allocation of an available resource (i.e. col. 19 lines 40-52).

Per claim 44:

The rejection of claim 40 is incorporated, and further, Gee discloses

-dynamically update available resource data throughout the builder tool, in real

time, upon determining the available resources (i.e. col 30 lines 55-67).

Per claim 45:

The rejection of claim 40 is incorporated, and further, Gee discloses

- dynamically update available build parameter data throughout the builder tool,

in real time, upon determination of build parameters (i.e. col 30 lines 55-67).

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described
> as set forth in section 102 of this title, if the differences between the subject matter sought to
> be patented and the prior art are such that the subject matter as a whole would have been
> obvious at the time the invention was made to a person having ordinary skill in the art to which
> said subject matter pertains. Patentability shall not be negatived by the manner in which the
> invention was made.

8.   Claims 1-20 and 48 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Beadle et al. (US Patent 6,433,794) hereinafter referred to as

Beadle in view of Gee at al. (US Patent 6,374,286) hereinafter referred to as

Gee.

Per claim 1:

Beadle discloses:

-create a target executable file for a multiple virtual machine environment

("selecting a Java virtual machine for use with a browser," abstract)

-a graphical user interface; an overview component, presented on said display

component, depicting a plurality of virtual machines ("Selection module

...contains the processes used in providing a user an ability to select a JVM.

Selection module...presents a GUI ...to the user, which allows the user to select

a JVM," col. 6 lines 10-24) and a parameter detail component, presented on said

display component concurrently with display; in said overview component, of its

related virtual machine of said plurality of virtual machines; wherein said

parameter detail component displays parameter information associated with at

least one of the virtual machines of said overview component (i.e. Fig.5C).

Beadle does not explicitly teach an embedded virtual machine

environment. However, Gee teaches that real time processors which can

concurrently run several independent JAVA processing machines (col. 1 lines 5-

13) were known in the pertinent art, at the time applicant's invention was made,

to allow multiple JAVA virtual machines to operate on a single direct execution

processor with each virtual machine operating in a separate time slice called a

partition for easy reconfiguration on multiple physical chips with separate

memory and execution speed (col. 3 lines 50-58). It would have been obvious

for one skilled in the art to modify Beadle's disclosed system to incorporate the

JEM technology of Gee. The modification would be obvious because one skilled

in the art would be motivated to concurrently run several independent JAVA

processing machines on real time processors (col. 1 lines 5-13) to meet the strict

timing requirements found in such environments and resource isolation (col. 23

lines 19-30).

Per claim 2:

The rejection of claim 1 is incorporated, and further, Gee discloses a project

choice (i.e. Fig.5C).

Per claim 3:

The rejection of claim 2 is incorporated, and further, Gee discloses

a plurality of choices (i.e. Fig.5C).

Per claim 4:

The rejection of claim 1 is incorporated, and further, Gee discloses

a plurality of associated virtual machine parameter group designators (i.e.

Fig.5C).

Per claim 5:

The rejection of claim 4 is incorporated, and further, Gee discloses

a tree structure (i.e. Fig.5C).

Per claim 6:

The rejection of claim 4 is incorporated, and further, Gee discloses

an index tab structure (i.e. Fig.5C).

Per claim 7:

The rejection of claim 4 is incorporated, and further, Gee discloses

a main menu and sub-menu structure (i.e. Fig.5C).

Per claim 8:

The rejection of claim 1 is incorporated, and further, Gee discloses

an interrupt assignment parameter group designator (col. 7 lines 5-22).

Per claim 9:

The rejection of claim 1 is incorporated, and further, Gee discloses each interrupt

assignment parameter group designator (col. 7 lines 5-22).

Per claim 10:

The rejection of claim 8 is incorporated, and further, Gee discloses

a method signature entry field (col. 7 lines 5-22).

Per claim 11:

The rejection of claim 1 is incorporated, and further, Gee discloses

a new virtual machine creator (col. 7 lines 36-46).

Per claim 12:

The rejection of claim 11 is incorporated, and further, Gee discloses

a routine prompting a user to enter data needed to create a new virtual machine

(col. 7 lines 36-46).

Per claim 13:

The rejection of claim 12 is incorporated, and further, Gee discloses that said

routine also automatically retrieves data needed to create a new virtual machine

(col. 7 lines 36-46).

Per claim 14:

The rejection of claim 1 is incorporated, and further, Gee discloses

a resource manager (col. 7 lines 47-67).

Per claim 15:

The rejection of claim 14 is incorporated, and further, Gee discloses

that said resource manager further comprises a resource determination

algorithm(col. 7 lines 47-67)

Per claim 16:

The rejection of claim 15 is incorporated, and further, Gee discloses

a resource modification interface (col. 7 lines 47-67)

Per claim 17:

The rejection of claim 16 is incorporated, and further, Gee discloses

a resource allocation interface (col. 7 lines 47-67).

Per claim 18:

The rejection of claim 16 is incorporated, and further, Gee discloses

a resource removal interface (col. 7 lines 36-46)

Per claim 19:

The rejection of claim 1 is incorporated, and further, Gee discloses

a parameter determination algorithm (col. 7 lines 5-22).

Per claim 20:

The rejection of claim 19 is incorporated, and further, Gee discloses a parameter

prioritization structure (col. 22 lines 26-40).

Per claim 48, it is another builder tool version of claim 1, respectively, and

is rejected for the same reasons set forth in connection with the rejection of claim

1 above.

9.   Claims 46-47 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Gee at al. (US Patent 6,374,286) hereinafter referred to as Gee, as applied

to claims 40-45 above, in view of Beadle et al. (US Patent 6,433,794)

hereinafter referred to as Beadle.

Per claim 46:

The rejection of claim 40 is incorporated, and further, Gee does not explicitly

teach a routine to permit user configuration of hardware pins via a graphical user

interface for a multiple virtual machine environment. However, Beadle teaches it

was known in the pertinent art, at the time applicant's invention was made, to

ease software development and configuration effort, increase one's productivity

providing a user friendly development environment such that disclosed in Beadle

(col. 6 lines 10-24). It would have been obvious for one skilled in the art to modify

Gee's disclosed system to use a GUI for a multiple virtual machine environment.

The modification would be obvious because one skilled in the art would be

motivated to increase one's productivity and simplify one's job by providing a

user friendly development environment as taught by Beadle (col. 6 lines 10-24).

Per claim 47, it is another storage medium version of claims 40-46,

respectively, and is rejected for the same reasons set forth in connection with the

rejection of claims 40-46 above.

Response to Arguments

10.   Applicant's arguments with respect to claims 1-48 have been considered

but are moot in view of the new ground(s) of rejection.

11.   Any inquiry concerning this communication or earlier communications from

the examiner should be directed to Insun Kang whose telephone number is 571-

272-3724. The examiner can normally be reached on M-F 7:30-4 PM.

        If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Kakali Chaki can be reached on 571-272-3719. The fax

phone number for the organization where this application or proceeding is

assigned is 571-273-8300.

        Information regarding the status of an application may be obtained from

the Patent Application Information Retrieval (PAIR) system. Status information

for published applications may be obtained from either Private PAIR or Public

PAIR. Status information for unpublished applications is available through

Private PAIR only. For more information about the PAIR system, see http://pair-

direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-

free).

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